

## **ABSTRACT**

A disclosed method tunes a signal from a channelized spectrum having a predetermined channel spacing. A signal of interest having a predetermined maximum bandwidth is mixed with a local oscillator signal, which has a frequency that is an integer multiple of the channel spacing or one-half of a channel spacing displaced from an integer multiple of the channel spacing. The local oscillator signal is selected to frequency translate the signal of interest to within a near-baseband passband whose lower edge is spaced from DC by at least about the maximum bandwidth of the signal of interest. Problems associated with  $1/f$  noise, DC offsets, and self-mixing products are avoided or substantially diminished. Other methods and systems are also disclosed.